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YAMANE TAKASHI**(54) **OPTICAL MODULATOR**

(57) Abstract:

PURPOSE: To shorten the transmission distance of an optical fiber by controlling the operating point of the optical modulator while changing a direct current bias to be impressed to an electrode corresponding to the change of an output electric signal photodetected and converted by a photodetector.

CONSTITUTION: When the operating point is deviated, a beam radiated from a joining point 22 of branched optical waveguides 2a and 2b is taken out as a monitor beam at the back of a substrate 1. The deviation of the operating point is detected by a photodetector 5 and a signal processing/control circuit part 90 and fed back to a power source 9, and the adjustment of the DC bias is executed to hold the correct operating point at all times. Thus, with extremely simple configuration, the transmission of the optical fiber is prevented from being shortened, without exerting any influence onto the optical power of a signal beam.

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